

# 56 Circumference

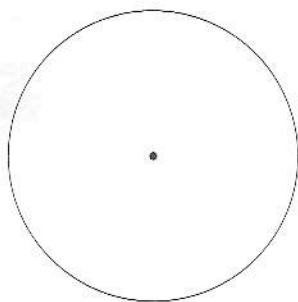


Measurement

## A Going Round in Circles

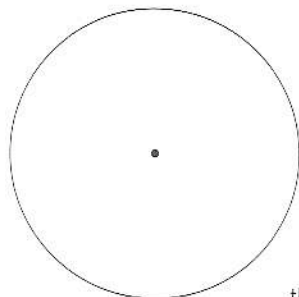
1a) Label with  $M$  the centre of this circle.

b) Draw and label with  $r$  the radius of the circle.



c) Draw and label with  $d$  the diameter of this circle.

d) Describe what is meant by the *circumference* of a circle.



2a) Draw with compasses a circle with centre  $M$  and radius 2 cm.

b) Measure the diameter of this circle.

$d =$  .....

c) Use a piece of cotton to measure the circumference.

$C \approx$  .....

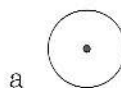
3 We found that the circumference of a circle is about 3 times as long as the diameter. David said, "The circumference of a circle is about 6 times as long as the radius". Do you agree? Explain your answer.

4 The *radius* of a bicycle wheel is 28 cm. Estimate the *circumference* of the wheel.

5 The diameter of a tree stump is 1.8 m. Estimate the *circumference* of the tree.

## B Pi

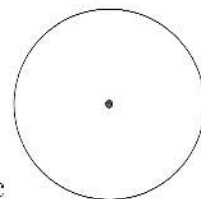
1 Measure the diameter and estimate the circumference of these circles.



a



b



c

Circle a :  $C \approx$  .....

Circle b :  $C \approx$  .....

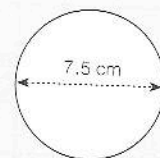
Circle c :  $C \approx$  .....

The exact length of the circumference of a circle is found with the formula  $C = \pi \times d$ .

In this formula  $C$  stands for circumference,  $d$  for diameter and  $\pi$  (say pi) is the number 3.141592654, which can be rounded to 3.14.

Example : A circle has a diameter of 7.5 cm. Calculate the length of the circumference.

Working :  $C = \pi \times d$   
 $= 3.14 \times 7.5$   
 $= 23.55 \text{ cm}$



2 Calculate the circumference of each circle in question 1.

Circle a :  $C = 3.14 \times 1 =$  ..... cm

Circle b :  $C =$  ..... cm

Circle c :  $C =$  ..... cm

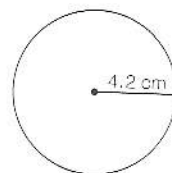
3 A circle has a radius of 4.2 cm.

a) Calculate the diameter.

$d =$  ..... cm

b) Calculate the circumference.

$C =$  ..... cm



4 How much sticky tape is needed to stick the lid to this container?

